

## 14. Some Spiders from South Annam.

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(Text-figures 1-10.)

The spiders described below were collected by Mr. C. Boden Kloss in the course of a journey among the hills in S. Annam, in the spring of 1918. He has very kindly sent them to me for identification.

## Family AVICULARIIDÆ.

## Genus MACROTHELE Auss.

## MACROTHELE MACULATA Thor., var. ANNAMENSIS, var. nov.

Dr. Thorell described as a new species, named as above, a non-adult female from Java, placing it in C. Koch's genus *Diplura*. There is no doubt about it belonging to the present genus. Of the two specimens here recorded, one is probably adult and the other certainly not. They agree closely with Thorell's description, with the exception that his specimen had two rows of white spots on the back on a black ground, while in these the spots are wanting.

He further states that the eye area is  $2\frac{1}{2}$  times as broad as long. In these it is barely twice as broad, meaning that the space between the front and rear rows has slightly widened. As I believe this may be caused during growth to maturity, I have merely deemed this a variety, due to the want of spots, instead of, as it would otherwise have to be, a new species. There are two females from Langbian Peaks, S. Annam, 6500 ft.

## Family ZODARIDÆ.

## Subfamily STORENOMORPHINÆ.

## Genus STORENOMORPHA Sim.

## STORENOMORPHA COMOTTOI Sim.

I have little doubt that a male and female from the same locality as the foregoing belong to M. Simon's above-named species, which he records from Burma.

The minute third claw is little more than a plate with a small point. It is close up to the scopula and very difficult to see at all. All three claws spring from a hollow at the end of the joint.

## Subfamily ZODARIINÆ.

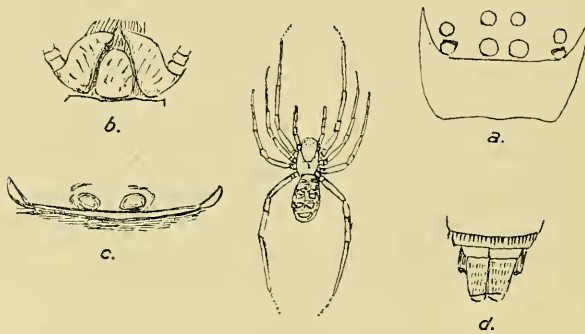
## LANGBIANA, gen. nov.

This genus differs from *Diores* Sim. in having the median eye area as broad as or slightly longer than broad. The row of spinous bristles on the tibia and distal joint of the female palp is lacking. The claw pectinated. There are short weak spines on all joints of the legs except the tarsal.

## LANGBIANA KLOSSI, sp. n.

The cephalic part of the cephalothorax and mandibles are dark red. The thoracic part, lip, maxillæ, sternum, legs, and palpi bright orange. The abdomen above is black-brown, with two longitudinal lines of yellow-grey spots, five in each, to near the posterior end, where are a few transverse lines of similar colour. On the under side it is yellow at the base as far as the genital fovea, below which are alternate black and rather wide yellow-grey longitudinal lines, some seven in number, reaching to the spinnerets, the latter being yellow.

Text-figure 1.

*Langbiana klossi*, gen. et sp. n.

*a*, eyes; *b*, lip and maxillæ; *c*, epigyne; *d*, spinnerets from under side. In *a* the front laterals should be lower down and rather nearer the median than drawn.

Both rows of eyes are procurved, the laterals of the posterior row having their uppermost points on a line with the bottom of the median, and the upper points of the front laterals in a line with the centres of their median.

The eyes of the rear row and the laterals of the front row are each about two-thirds the diameter of the front median. The latter are half their diameter apart and twice that distance from the rear median, which are their own diameter apart and twice their diameter from their laterals.

The front laterals are their diameter distant from their median.

The clypeus is one and a half times longer than the median eye-area and perpendicular.

The mandibles are conical, one and a half times as long as they are broad at the base; the fangs short and stout.

The lip is longer than broad, rounded anteriorly, three-fourths the height of the maxillæ. The latter bend over the lip and are convex, not at all impressed.

The sternum is shield-shaped, truncate anteriorly,  $1\frac{1}{2}$  times as long as broad, rounded at the posterior end, but not protruding between the rear coxæ, which are rather wide apart.

The abdomen is ovate, broader in front than at the rear, rounded at the sides. At the posterior end on the under side is a transverse row of short spines in front of the spinnerets. Of these the inferior are cylindrical, raised on a membranous base, with a short 2nd joint. They stand close together. The superior are similar, but half as long and only half the diameter, standing farther apart. The epigyne consists of two oval depressions, their length apart, with another shallow hollow above each.

The legs are long and fine, the joints cylindrical, with a few scattered hairs along the outer sides, and short weak spines on all joints except the tarsal. Near the distal end of the metatarsal is a thick bunch of spinous bristles. The tarsal joints of the 2nd and 3rd pairs (the others broken) are three-fourths the length of the metatarsal. The claws are two, with about six pectinations, and spring from a short onychium.

The measurements in millimetres are as follows:—

		Long.	Broad.		
Cephalothorax...		$3\frac{1}{2}$	$\left\{ \begin{array}{l} 1\frac{1}{4} \text{ in front.} \\ 2 \end{array} \right.$		
Abdomen.....		$3\frac{3}{4}$			$2\frac{1}{2}$
Mandibles .....		$1\frac{1}{4}$			
			Trochanter.	Patella	Metatarsus
			& femur.	& tib'a.	only.
Legs.....	1.	1	$2\frac{1}{2}$	$3\frac{3}{4}$	$3\frac{3}{4}$ = 11 + ?
	2.	$\frac{3}{4}$	$2\frac{1}{2}$	$2\frac{1}{2}$	Metat. & tars. = $9\frac{3}{4}$
	3.	$\frac{3}{4}$	$2\frac{1}{4}$	$2\frac{3}{4}$	$3\frac{3}{4}$ = $9\frac{1}{2}$
	4.	$1\frac{1}{8}$	$2\frac{3}{4}$	$3\frac{1}{2}$	Metat. only. = $12\frac{1}{8}$ + ?
Palpi .....		$\frac{1}{2}$	$1\frac{1}{8}$	$1\frac{1}{8}$	1 = $3\frac{3}{4}$

A single female from Dalat, Langbian Mountains, S. Annam, 5000 ft.

## Family THERIDIIDÆ.

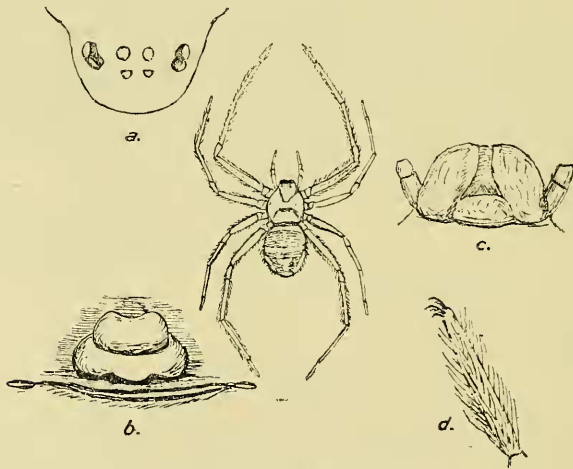
## ARGYROELOS, gen. nov.

Differs from *Argyrodes* Sim. in having the front median eyes smaller than the laterals and the median eye-square narrower anteriorly than at the rear. The maxillæ bending over the lip nearly meet one another.

## ARGYROELOS MICANS, sp. n.

The cephalothorax, mandibles, lip, maxillæ, and coxæ are all bright orange. The sternum somewhat yellower, legs and palpi paler orange, with yellow-grey hairs and brown bristles. The abdomen is jet-black, with a mottled white streak across the base, another across the middle, a third at the rear end with a diamond-shaped spot between the latter two; the under side is similarly black, with a short white transverse streak behind the genital fold and a fainter white fillet at the sides. The epigyne orange and spinnerets dull brown.

Text-figure 2.

*Argyroelos micans*, gen. et sp. n.

*a*, eyes; *b*, epigyne; *c*, lip and maxillæ; *d*, tarsus iv.

The cephalothorax is  $1\frac{1}{4}$  millimetres longer than broad, rounded and narrowed in front and to a less degree at the rear, rounded at the sides. The cephalic part is marked by depressions from behind the side eyes to a broad but shallow transverse depression, from the ends of which two turn rearwards.

The rear row eyes are very slightly recurved, equal in diameter, the median pair being  $1\frac{1}{3}$  of their diameter apart and  $1\frac{1}{2}$  of the same from their laterals. The latter are contiguous with the



front laterals, on a joint tubercle. The front median eyes are distinctly smaller than the others, their diameter distant from the rear median, slightly more from one another, and  $1\frac{1}{2}$  diameter from their side eyes.

The surface of the cephalothorax is smooth, with the exception of very fine bristles on roots scattered at intervals on the cephalic part.

The clypeus is convex, perpendicular, twice as deep as the length of the median eye square.

The mandibles are straight along the outer edges, divergent on the inner; on the inner margin of the falx-sheath at the far corner is a triangular tooth, on the outer margin two smaller near the middle. The fangs are long and slender.

The lip is about  $2\frac{1}{2}$  times as broad as long, curved in front, straight at the sides, and immovable. The maxillæ are nearly three times as high as the lip, over which they bend, nearly meeting one another, with straight edges on the upper part of the inside, truncate anteriorly, and with a hollow about the middle of the outer side.

The sternum is a long shield-shape, curved in front round the bases of the lip and maxillæ, and passing in a narrow point between the rear coxæ.

The abdomen is oval, smooth, slightly protruding over the cephalothorax. On the upper side it is sparsely furnished with rather long, fine bristles, on the under side similar but shorter. The epigyne consists of a lunate flat shelf protruding from a kidney-shaped convex area, which fills the median part of the former. The spinnerets are not quite terminal, on chitinous bases, conical, with a short 2nd joint.

The legs are moderately long and fine, without spines, the metatarsal joints longer than the tibial. The two upper tarsal claws are bent at the anterior end, with about five pectinations on the basal half. The third claw smooth. The palpal claw is straighter, with about five pectinations, also.

The measurements in millimetres are as follows:—

		Long.	Broad.		
Cephalothorax ...		$4\frac{1}{2}$	$\left\{ \begin{array}{l} 1\frac{1}{2} \text{ in front.} \\ 3\frac{1}{4} \end{array} \right.$		
Abdomen.....		$5\frac{1}{4}$		$4\frac{1}{2}$	
Mandibles .....		1			
		Coxa.	Tr. & fem.	Tib. & pat.	Metat. & tars.
Legs .....	1.	$1\frac{1}{4}$	6	6	7 = $20\frac{1}{4}$
	2.	1	$4\frac{1}{2}$	$4\frac{1}{2}$	$5\frac{1}{2}$ = $15\frac{1}{2}$
	3.	$\frac{3}{4}$	$3\frac{1}{2}$	$3\frac{1}{2}$	$4\frac{1}{2}$ = $12\frac{3}{4}$
	4.	$1\frac{1}{4}$	$5\frac{1}{2}$	$5\frac{1}{2}$	$6\frac{1}{2}$ = $18\frac{3}{4}$
Palpi .....		$\frac{1}{2}$	$1\frac{1}{4}$	1	$1\frac{1}{4}$ = 4

One female from Dalat, Langbian Mountains, S. Annam, 5000 ft.

The cephalothorax, broader at the rear, with a shallower thoracic fovea, front median eyes smaller than the others, and maxillæ bending more over the lip, are sufficient to distinguish this from *Argyrodes*, which it resembles in mandibles, lip, long metatarsi, and other points.

#### Family ARGIOPIDÆ.

##### Genus NEPHILA Leach.

###### NEPHILA MACULATA.

*Aranea maculata* Fabr. Ent. Syst. ii. p. 425 (1793).

*N. maculata*, forma principalis, Thorell, Rag. Austro-Mal. iii. p. 145 (1881).

Two females from Phanrang Province, S. Annam.

##### Genus ARGIOPE Aud. in Sav.

ARGIOPE ÆTHEREA Walck. Ins. Apt. ii. p. 112 (1841).

One non-adult female. Dran, Langbian Mountains, S. Annam, 3000 ft.

##### Genus GASTERACANTHA Sund.

GASTERACANTHA PRÆTEXTATA Walck.

Two females. Dran, Langbian Mountains, S. Annam, 3000 ft.

#### Family THOMISIDÆ.

###### DLEA SHIRLEYI, sp. n.

The cephalothorax is dark red, the mandibles, lip, and maxillæ rather paler, the former with nearly white fillets on the outer margin of the falx-sheath, the sternum darker red again. The femora and patellæ of the front two pairs of legs are dark brown; tibia red at the base, dark at the distal end, metatarsus and tarsus pale reddish brown, all with short, fine brown hairs or bristles. The coxæ of the latter also darker red than the rear two pairs. The other joints of these and the palpi are pale yellow-brown.

The abdomen above is dark brown, smooth, and shiny, with faint yellowish markings, one rather large spot at the base, a pair of large round spots about the middle, with a pair of smaller below them; nearer the posterior end a pair of strokes sloping outwards from the centre line. Across the posterior end are three transverse dark brown corrugations, slightly paler along their anterior sides. Along the sides of the abdomen are similar longitudinal corrugations, which on the under side between the spinnerets and the genital groove sur- round, in a shield-shaped area, another transverse series. A pair

of chitinous pale red-brown spots lie one each side above the pulmonary openings, the spinnerets of a similar colour are enclosed in a circular corrugation. The shape is about oval.

The cephalothorax is as broad as long, truncate in front, where it is less than one-half its greatest width, rounded at the sides. Its surface is roughly coriaceous, with a few bristles on roots scattered over it.

Text-figure 3.



*Dixa shirleyi*, sp. n., ♂.  
a, eyes; b, male palp.

The mandibles are short, straight, and about twice as long as broad.

The lip is as long as broad, rather broadly rounded in front, half the length of the maxillæ. The sternum broad, heart-shaped, passing between the rear coxæ, which are wide apart. The palp is of a normal type, an oval cushion with a flagellum running round it.

The measurements in millimetres are as follows:—

		Long.	Broad.				
Cephalothorax...		$1\frac{7}{8}$	$\left\{ \begin{array}{l} \frac{7}{8} \text{ in front.} \\ 1\frac{7}{8} \end{array} \right.$				
Abdomen .....		$2\frac{1}{2}$		$1\frac{1}{2}$			
Mandibles .....		$\frac{7}{8}$					
		Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs .....	1.	$\frac{1}{2}$	$2\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{1}{2}$	=	$7\frac{3}{4}$
	2.	$\frac{1}{2}$	$2\frac{1}{2}$	3	$2\frac{1}{2}$	=	$8\frac{1}{2}$
	3.	$\frac{1}{4}$	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{4}$	=	$3\frac{7}{8}$
	4.	$\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{3}{8}$	=	$4\frac{1}{4}$
Palpi .....		$\frac{1}{3}$	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	=	$1\frac{7}{8}$

One male from Dalat, Langbian Mountains, S. Annam, 5000 ft.

This in many respects resembles Thorell's *D. zonura*, described from three females collected in Java and Sumatra, and may possibly be the male of them; the legs are not quite in the same proportion, neither does he mention the numerous corrugations on the sides and underneath, nor the hard shiny back of the abdomen.

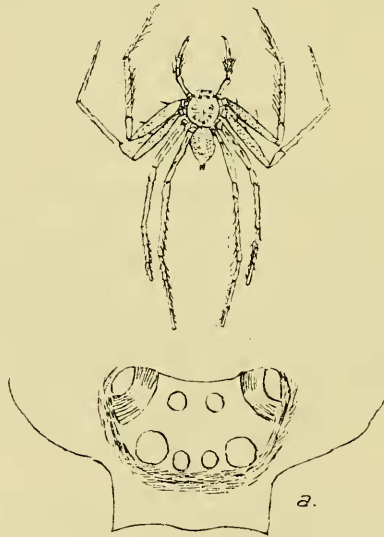
Family CLUBIONIDÆ.

Genus PANDERCETES L. Koch.

PANDERCETES OCHREA, sp. n.

The cephalothorax and mandibles are bright orange-yellow, with white and red hair on the former and white bristles on the inner sides of the latter. The fangs are yellow-brown. On the thoracic part of the cephalothorax are two transverse rows of pale brown hair. The eye-space is almost wholly dark brown, but interspersed with red and white hair.

Text-figure 4.



*Pandercetes ochrea*, sp. n. a, eyes.

The lip, maxillæ, and sternum are bright pale yellow, the coxæ orange.

The legs are pale yellow, with smooth white hair and upstanding brown bristles, very long brown spines, and grey scopulæ on tarsi and metatarsi.

The upper side of all the femoral joints are embellished with round brown spots in more or less longitudinal rows.

The upper side of the pale yellow abdomen is thickly covered with smooth white hair, the underlying surface being dotted like the femora with numerous rather large round brown spots. The underside is somewhat similar, but the hair-covering is shorter and finer and there are no brown spots. The median area is mottled with smaller white spots. The spinnerets are bright yellow.

The cephalothorax and eyes are quite typical of *L. Koch's* genus.

The lip, broader than long, is not quite half the length of the maxillæ. The four teeth on the inner margin of the palx-sheath are equal in size. Two on the outer margin are smaller, the lower one smallest of all. Besides the tarsal scopula, a rather thin one runs about half-way up the metatarsus of all legs.

Underneath the tibia and metatarsus of each leg are two pairs of powerful spines  $2\frac{1}{2}$  millimetres long besides others shorter. The claws are stout and well curved, with four pectinations.

The abdomen is truncate in front and rather pointed posteriorly.

The measurements in millimetres are as follows:—

	Long.	Broad.				
Cephalothorax ...	$5\frac{1}{2}$	$\left\{ \begin{array}{l} 2\frac{1}{2} \text{ in front.} \\ 8 \end{array} \right.$				
Abdomen .....	$6\frac{1}{2}$		4			
Mandibles .....	$2\frac{1}{2}$					
	Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs .....	1.	2	$10\frac{1}{2}$	12	$9\frac{1}{2}$	= 34
	2.	$2\frac{1}{4}$	11	$12\frac{1}{2}$	10	= $35\frac{3}{4}$
	3.	$2\frac{1}{4}$	9	$9\frac{1}{2}$	9	= $29\frac{3}{4}$
	4.	$2\frac{1}{4}$	$9\frac{1}{2}$	12	12	= $35\frac{3}{4}$
Palpi .....	1	3	3	3	3	= 10

It will be noted that the second and fourth pairs of legs are equal and longest,  $6\frac{1}{2}$  times the length of the cephalothorax. In *P. gracilis* L. K. the first pair of legs are longest,  $7\frac{1}{2}$  times as long as the cephalothorax, and there is a pattern on the abdomen. In *P. plumosus* Dol. the legs are covered with thick bunches of hair and first pair longest. In *P. longipes* Thor. the second pair are 9 times as long as the cephalothorax. In *P. isopus* Thor. the first, second, and fourth pairs of legs are equal in length, only 4 times as long as the cephalothorax, and coloration much darker, especially the sides of the latter.

This must certainly be a new species, and I have named it accordingly.

There is one not quite adult female and one smaller from Dran in the Langbian Mountains of S. Annam, taken at an elevation of 3000 ft.

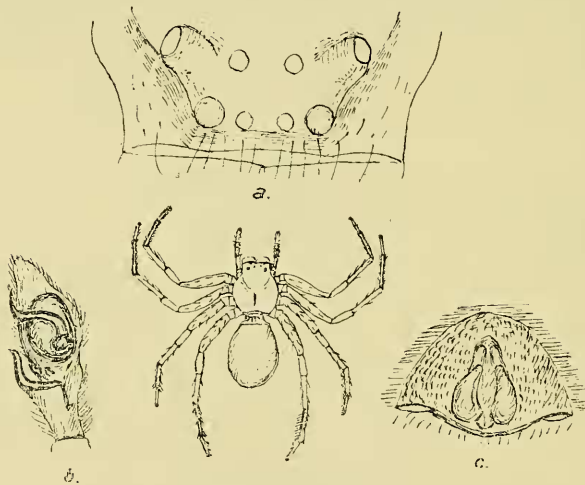
Genus *ADRASTIS* Sim.

*ADRASTIS LASHBROOKI*, sp. n.

*Male*. The cephalothorax is bright orange-yellow, with a narrow brown stripe passing from the eye-space to the rear, from which protrude forward at the rear of the cephalic part two right-angled prongs, the whole forming a trident-shaped pattern. Behind these are two similarly coloured forward curving lines. The rear slope is brown.

The mandibles are orange. The lip, maxillæ, sternum, coxæ, and under side of abdomen paler yellow. The upper side of the latter dark grey, with a round pale spot at the base. The legs

Text-figure 5.



*Adrastis lashbrookii*, sp. n., ♂.

a, eyes; b, male palp; c, epigyne.

pale yellow, with brown spines and nearly white scopulæ. The palp is dark grey on the back of the distal joint.

The *Female* is darker on the main part of the cephalothorax, but a pale band runs round the margin, and the brown pattern-markings are fainter. The abdomen on the back is dark grey, with three pale spots at the base in a transverse line and a pale grey transverse line at rear, also many grey hairs among the darker. The under side of the abdomen is yellow-grey, with dark grey hairs mixed with white; the scopula and claw-tufts a trifle darker than in the males. The epigyne brown.

The cephalothorax is half a millimetre longer than broad, rounded at the sides, truncate in front, curving inwards at the rear. The eye-space is raised up above the adjacent area at the sides and in front, but at the rear is on a level with the dorsal surface.

The rear row of eyes is recurved, the median sessile  $1\frac{1}{2}$  diameters apart. The laterals on prominences are  $1\frac{1}{2}$  times as large and  $1\frac{1}{2}$  times as far away as the median are from one another. The front row are only slightly recurved, the laterals as large as the rear laterals. The front median are rather smaller than the rear median,  $1\frac{1}{3}$  diameters apart, half that distance from the laterals, and 2 diameters from the rear median. The clypeus is about the depth of the diameter of the rear median eyes.

The mandibles are conical, slightly kneed at the base, with three equal teeth on the inner falx-sheath margin and one quite small below them.

The lip is convex, as broad as long, rounded at the sides, truncate in front, less than half as long as the maxillæ, which are widest in front and narrowed at the base to one-half the width in front.

The sternum is as broad as long, rounded at the sides, truncate in front, and thickly covered with upstanding bristly hair.

The legs are moderately stout, with fine downlying hair, three pairs of spines under each tibia, and three long ones on the outer side of i. Scopulæ on all tarsi and on metatarsus of i. and ii. Two claws with about 7 or 8 pectinations. On the tibial and distal joint of the palp are three spines each.

The epigyne consists of a pair of convex bean-shaped prominences, placed longitudinally a short distance apart, narrowed at the upper ends to one-half the width at the base. Above each of them is an oval hollow. The whole lies on a semi-oval prominence covered with short rough hair.

In the *Male* the rear row of eyes is less recurved and the abdomen narrower in comparison with its length.

On the outer side of the tibial joint of the palp is a rather long, hollowed, pointed apophysis, with three curved spines on the inner side. A fine pointed flagellum passes about half-way round the bulb, and a stouter doubly-curved apophysis projects from the opposite side.

The measurements in millimetres are as follows:—

	<i>Female.</i>		<i>Male.</i>	
	Long.	Broad.	Long.	Broad.
Cephalothorax ...	$4\frac{1}{4}$	$\left\{ \begin{array}{l} 2\frac{1}{2} \text{ in front.} \\ 3\frac{3}{4} \end{array} \right.$	$3\frac{3}{4}$	$\left\{ \begin{array}{l} 1\frac{3}{4} \text{ in front.} \\ 3\frac{1}{2} \end{array} \right.$
Abdomen .....	6	4	5	$2\frac{1}{2}$
Mandibles .....	2		$1\frac{1}{2}$	



		<i>Female.</i>					
		Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs .....	1.	$1\frac{1}{4}$	$4\frac{1}{2}$	5	4	=	$14\frac{3}{4}$
	2.	$1\frac{1}{4}$	5	5	$4\frac{1}{2}$	=	$15\frac{3}{4}$
	3.	$1\frac{1}{4}$	4	4	$3\frac{1}{2}$	=	$12\frac{3}{4}$
	4.	$1\frac{1}{2}$	$4\frac{1}{2}$	$4\frac{1}{2}$	$4\frac{1}{2}$	=	15
Palpi .....		$\frac{1}{2}$	2	2	2	=	$6\frac{1}{2}$
<i>Male.</i>							
Legs .....	1.	$1\frac{1}{4}$	4	$5\frac{1}{2}$	5	=	$15\frac{3}{4}$
	2.	$1\frac{1}{4}$	$4\frac{1}{2}$	6	$5\frac{1}{2}$	=	$17\frac{1}{4}$
	3.	$1\frac{1}{4}$	$3\frac{3}{4}$	$4\frac{1}{2}$	5	=	$14\frac{1}{2}$
	4.	$1\frac{1}{2}$	4	5	$6\frac{1}{2}$	=	17
Palpi .....		$\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	=	5

Three males and one female from Langbian Peaks, S. Annam, 6500 ft.

This species is distinguishable from *A. atomaria* Sim. by its more uniform colour, freedom from spots on the cephalothorax and legs, as well as the more even length of the latter, of which the second pair is the longest.

#### Genus PALYSTES L. Koch.

##### PALYSTES LEDLEYI, sp. n.

*Female.* The cephalothorax is yellow-brown, with fine down-lying pale yellow-brown hair scolloped against a paler area at the rear; on the clypeus whitish yellow. The mandibles are brown with brown hair. The fangs dark red-brown. The lip, maxillæ, sternum, and coxæ pale yellow-brown. The remaining joints of the legs and palpi are darker, the hairing ashy grey under the femora and on the scopolæ, otherwise yellow-brown.

The abdomen is pale yellow, with fine, short, smooth, yellow-brown hair above and four muscle-spots rather darker in a trapezium, narrowest in front.

The under side is similar in colour, with a dark grey triangular pattern between the genital fold and the spinnerets, and three longitudinal lines in the middle.

The cephalothorax is highest just in front of the rear slope and declines to the eye-space; it is rounded at the sides, and narrows in front to one-half its greatest width. The mandibles are as long as the front is wide, perpendicular, convex. On the inner margin of the falx-sheath are three large teeth followed by one smaller, and low down on the outer one large between two smaller.

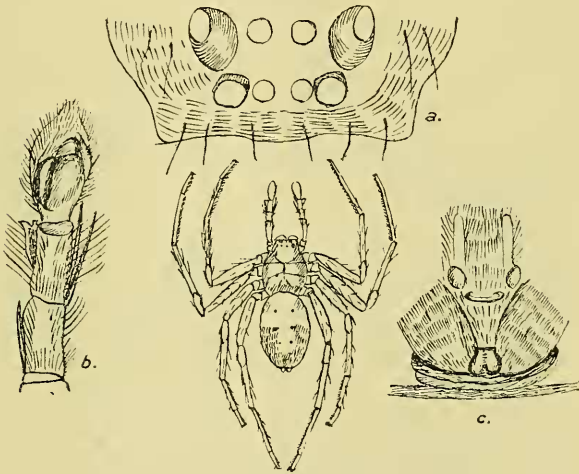
The rear row of eyes is slightly recurved, the median their diameter apart, and  $1\frac{1}{2}$  of same from the laterals, which are also

$1\frac{1}{2}$  times wider in diameter; the front row is straight, the median rather smaller than the rear median, two-thirds of their diameter apart, and one-fourth of the same from their laterals, which are as large as the rear laterals. They are  $1\frac{1}{2}$  their diameter from the rear median. The whole eye-space and the clypeus is furnished with long, upstanding brown bristles.

The lip is broader than long, rounded in front, and less than one-half the length of the maxillæ, which are upright, convex, truncate in front, and slightly hollowed on the outer margin.

The legs are moderately stout and long. The front femora have i., ii., i. spines on the upper side, none on the under. On the fourth pair ii., i., ii., i. above. The patellæ are unarmed. Under

Text-figure 6.

*Palystes ledleyi*, sp. n., ♂.

*a*, eyes; *b*, male palp; *c*, epigyne.

the tibia of all legs three pairs of spines. On the front two pairs the scopula reaches two-thirds the length of the metatarsus, on the third and fourth pairs the whole distance. On the patella joint of the palp is a pair of spines, one each side; on the tibial, three long on the outer side, two on the inner, and on the distal joint three long on each side.

The epigyne consists of two kidney-shaped prominences, placed diagonally in the sides of a circular hollow, and meeting over a pair of small chitinous lobes at the lower end.

The *Male* is darker on the cephalothorax, the centre of the thoracic part black-brown, with the lower edge scolloped, and a nearly white fillet round the margin.

On the tibial joint of the palpi is an apophysis, hollowed out in the middle, with a blunt point on the outside corner and a square-topped projection on the side nearest the joint. On the opposite side of the same joint are three long spines springing from near the base and reaching past the distal end.

The measurements in millimetres are as follows:—

	<i>Female.</i>		<i>Male.</i>	
	Long.	Broad.	Long.	Broad.
Cephalothorax ...	12	$\left\{ \begin{array}{l} 5 \text{ in front.} \\ 10 \end{array} \right.$	9	$\left\{ \begin{array}{l} 4 \\ 8\frac{1}{2} \end{array} \right.$
Abdomen .....	18	10	$14\frac{1}{2}$	$9\frac{1}{2}$
Mandibles .....	5		4	

		<i>Female.</i>				
		Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.	
Legs .....	1.	4	14	18	15	= 51
	2.	$4\frac{1}{2}$	15	20	16	= $55\frac{1}{2}$
	3.	4	13	$14\frac{1}{2}$	$13\frac{1}{2}$	= 45
	4.	$4\frac{1}{2}$	14	15	16	= $49\frac{1}{2}$
Palpi .....	2		$5\frac{1}{2}$	5	6	= $18\frac{1}{2}$

		<i>Male.</i>				
Legs .....	1.	$3\frac{1}{2}$	$11\frac{1}{2}$	14	12	= 41
	2.	4	$13\frac{1}{2}$	15	$13\frac{1}{2}$	= 46
	3.	$3\frac{1}{2}$	10	$11\frac{1}{2}$	10	= 35
	4.	4	11	$12\frac{1}{2}$	$12\frac{1}{2}$	= 40
Palpi .....	2		4	4	4	= 14

There are two males and eight females from Dran, in the Langbian Province of S. Annam, from an altitude of 3000 ft., and Mr. Kloss has also sent me one male and one female from Kuala Lumpur, Malay Peninsula.

The measurements, and many other points, are very close to those of Dr. Thorell's *P. incanus* from Borneo, but in that species the first pair of legs is longest; the remainder are shorter in proportion in this species; the side-eyes of the rear row are as large as the side-eyes of the front row instead of having the rear row all nearly equal, and the rear laterals are on large tubercles instead of being sessile.

#### Genus SERAMBA Thor.

SERAMBA PICTA? Thor.

One male, not fully adult. Dran, Langbian Mountains, 3000 ft.

## Genus CTENUS Walck.

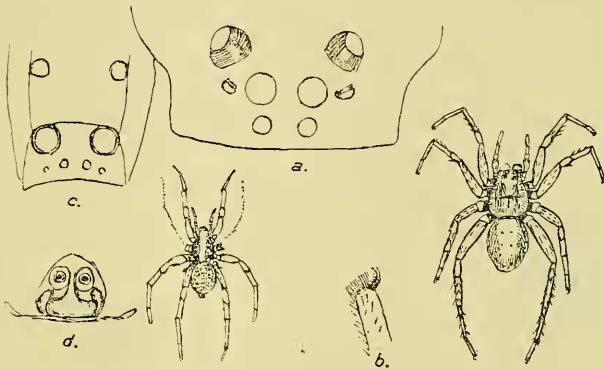
## CTENUS FLAVIDUS, sp. n.

The cephalothorax is bright orange-yellow, with dark grey hairs at the sides and scattered white hairs along the margin. The thoracic fovea is brown.

The eyes topaz-yellow, the rear median on black rims. The mandibles, slightly darker, have long brown bristles and short downlying white hair, chiefly near the base; fangs red, fringes grey.

The lip, maxillæ, sternum, and coxæ are all about the same, pale yellow with brown bristles and scattered dark grey hairs, rather lighter on the fringes of the maxillæ. The legs are orange-

Text-figure 7.



*Ctenus flavidus*, sp. n., ♀. *a*, eyes; *b*, tarsus of iv leg.

*Pardosa dranensis*, sp. n., ♀. *c*, eyes; *d*, epigyne.

coloured, with brown spines and grey tarsal claw-tufts. The abdomen is pale yellow on the upper side, paler still on the under, with short white hairs scattered about.

The cephalothorax is truncate and narrowed in front, gradually widening at the sides of the cephalic part and much rounded at the sides of the thoracic, hollowed at the rear. It is straight along the median line, but slopes steeply to the side near the margin. The mandibles are kneed at the base, the fangs long and slightly curved. On the inner falx-margin are three large teeth followed by one smaller, and on the outer three.

The front median eyes are two-thirds the diameter of the rear median, and the small oval laterals of the front row have their upper edges on a line with the upper edge of the latter. The rear laterals are intermediate in size between the front and rear median, and their lower edges are on a line half their diameter

above that touching the tops of the rear median and front laterals.

The lip is as broad as long, slightly hollowed in front, rounded at the sides, and narrowed at the base. It hardly reaches to one-half the height of the maxillæ. The latter are convex, upright, rounded on the outer side, the anterior margin furnished with thick heavy fringes.

The sternum is a broad shield-shape, convex, narrowed in front, rounded at the sides, and, rather finely pointed at the rear, it terminates in front of the rear coxæ. The legs are moderately stout, with five pairs of spines under tibia i. and ii. and three pairs under metatarsus i. and ii.

The tarsi have thick claw-tufts, no scopulæ, but rather thick bristles, along tarsus iv. The claws are well curved, stout, with three teeth near the base.

The abdomen is ovate, broadest posteriorly, with a broad pedicule, visible from above; the surface is smooth, with only scattered hairs and bristles. The inferior spinnerets are short and conical, broad at the base, with a hemispherical 2nd joint. The superior are similar, but much smaller still, rather wide apart, standing behind the outer margin of the inferior.

The measurements in millimetres are as follows:—

		Long.	Broad.			
Cephalothorax ...		$4\frac{1}{2}$	} $2\frac{1}{4}$ in front.			
			} 4			
Abdomen .....		$5\frac{1}{2}$	4			
Mandibles .....		$1\frac{3}{4}$				
		Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.	
Legs .....	1.	$1\frac{1}{2}$	4	4	$3\frac{1}{2}$	= 13
	2.	$1\frac{1}{2}$	4	4	$3\frac{1}{2}$	= 13
	3.	$1\frac{1}{4}$	3	3	3	= $10\frac{1}{4}$
	4.	$1\frac{1}{2}$	5	$4\frac{1}{2}$	5	= 16
Palpi .....		$\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	= 5

I have described this non-adult female from Dran, Langbian Mountains as a new species only. The position of the lateral eyes of the front row, as far to the rear as the tops of the rear median, was L. Koch's grounds for constituting his genus *Pycnoctenus* and removing a single species from Walekenæer's genus of *Ctenus*. In the narrowness of the clypeus, however, the above-described differs from both genera. The shape of the cephalothorax and abdomen agrees with L. Koch's genus, but I am unable to distinguish any third claw, and in his the lip is manifestly more than half as long as the maxillæ, while here it is the opposite.

I therefore leave it as a *Ctenus*, in spite of the narrow clypeus and the front laterals, because it follows that genus in too many other points.

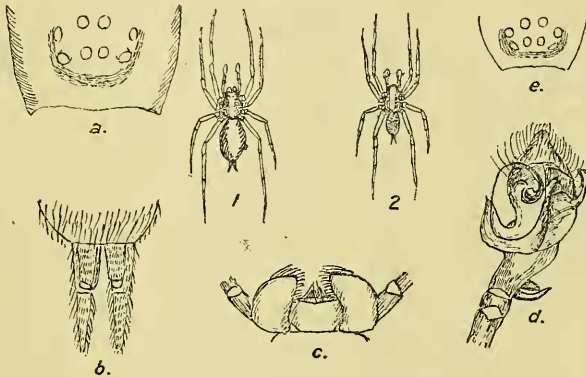
## Family AGALENIDÆ.

## Genus AGALENA Walck.

## AGALENA DORIS, sp. n.

The cephalothorax dark brown at sides, with paler brown median stripe reaching from the rear row of eyes to the rear slope. The hairy covering is plumose, smooth brown at the sides and white on the median area. The mandibles, lip, and maxillæ are pale yellow-brown, with similar white hair to that on the cephalothorax, the sternum darker, the hair longer and pointing forwards, the coxæ pale, with short plumose hair and longer upstanding bristles. The legs and palpi pale brown, banded with white hairs, but darker on the under side of the femur. The abdomen is yellowish grey all over, with scattered plumose white hair. The eyes are topaz-yellow.

Text-figure 8.



1. *Agalena doris*, sp. n., ♂. a, eyes.

2. *Agalena tenuis*, sp. n., ♂.

b, spinnerets of both species; c, lips and maxillæ of both species;

d, male palp of *A. tenuis*; e, eyes of *A. tenuis*.

The cephalic part of the cephalothorax is straight and narrow, truncate in front, the thoracic part sloping rather steeply therefrom to the side-margins. The rear row of eyes are equal and equidistant their diameter apart, and so far procurved that a line across the upper points of the laterals is wholly below the lower edge of the median. The front row is shorter and likewise procurved, the eyes about the same size as the rear row, being about two-thirds of their diameter apart, and only so much procurved that the upper points of the laterals reach as far back as the centres of the median.



The median quadrilateral is longer than broad and narrower in front than at the rear. The clypeus is as deep as the median eye-area, perpendicular, and slightly hollowed below the front row of eyes. The mandibles are conical, with three small teeth on the inner margin of the falx-sheath.

The lip is straight in front, broader than long, with the maxillæ slightly inclined over it and barely twice as high as the lip.

The sternum is as broad as long, truncate in front, rounded at the sides, the blunt rear end passing between the rear coxæ. The whole area is distinctly convex.

The joints of the legs are cylindrical and fine. There are a few short spines on the tibial and metatarsal joints, with a bunch at the distal end of the latter. The superior tarsal claws have about six pectinations at the basal end.

The abdomen is ovate, broadest anteriorly and truncate posteriorly, and is furnished with a thin coating of downy plumose hair and scattered upright plain hair. The inferior spinnerets are cylindrical, their diameter apart, covered both with the plumose hair and longer fine bristles. A very short hemispherical 2nd joint inside the circular termination of the 1st. The 1st joint of the superior is about the same length and shape as that of the inferior, with a 2nd joint longer and tapering to a fine point.

The measurements in millimetres are as follows :—

	Long.	Broad.				
Cephalothorax ...	$2\frac{3}{4}$	} $1\frac{1}{4}$ in front. } 2				
Abdomen .....	$3\frac{3}{4}$					$2\frac{1}{2}$
Mandibles .....	$1\frac{1}{4}$					
	Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs .....	1. $\frac{3}{4}$	$2\frac{1}{2}$	3	3	=	$9\frac{1}{4}$
	2. $\frac{3}{4}$	$2\frac{1}{4}$	3	3	=	9
	3. $\frac{3}{4}$	$2\frac{1}{4}$	2	$2\frac{3}{4}$	=	$7\frac{3}{4}$
	4. $\frac{3}{4}$	$2\frac{3}{4}$	$3\frac{1}{2}$	4	=	11
Palpi .....	$\frac{3}{8}$	$1\frac{1}{4}$	$\frac{3}{4}$	$1\frac{1}{4}$	=	$3\frac{5}{8}$

These are two males, neither quite adult, from the Langbian Peaks, S. Annan, 6500 ft. The genus seems to be very poorly represented in any of the surrounding areas, and I have little doubt that the species is hitherto undescribed, as also the following from the same part.

*AGALENA TENUIS*, sp. n.

A non-adult female and fully adult male from the same locality, while resembling the above in the more important respects, can readily be distinguished therefrom.



The colouring of the cephalothorax and abdomen both above and below is a uniform deep black-brown, with the exception of a lozenge-shaped whitish-haired patch round the thoracic fovea of the former. The eyes are black.

The mandibles, lip, maxillæ, and sternum are rather dark yellow-brown.

The legs are brown, with the exception of the tarsal joints, which are yellow.

The shape of the cephalothorax, eyes, mandibles, lip, maxillæ, and sternum are as in the above-described, but the legs are finer and more heavily bespined—a single spine on the inner side of each femur, two single on the upper side of femur 1 and 2.

The spines on the tibia and metatarsus are longer and stouter, and the tarsal joint of the third and fourth pair of legs is more than half as long as the metatarsus of the same. The abdomen is narrower in proportion to its length. The sternum projects rather farther between the rear coxæ, and the whole specimen is distinctly smaller and more lightly formed.

The measurements in millimetres are as follows:—

		Long.		Broad.		
Cephalothorax . .		$2\frac{1}{2}$		} $\frac{3}{4}$ in front. } $1\frac{1}{2}$		
Abdomen . . . . .		$2\frac{1}{4}$			$1\frac{1}{4}$	
		Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.	
Legs . . . . .	1.	$\frac{3}{4}$	2	$2\frac{1}{2}$	$3\frac{1}{2}$	= $8\frac{3}{4}$
	2.	$\frac{1}{2}$	2	$2\frac{1}{4}$	3	= $7\frac{3}{4}$
	3.	$\frac{1}{2}$	2	$1\frac{3}{4}$	$2\frac{3}{4}$	= 7
	4.	$\frac{3}{4}$	$2\frac{1}{2}$	$2\frac{1}{2}$	$3\frac{1}{2}$	= $9\frac{1}{4}$

Family LYCOSIDÆ.

Genus PARDOSA C. Koch.

PARDOSA DRANENSIS, sp. n. (See text-fig. 7, p. 299.)

The cephalothorax has a pale yellow-brown median streak reaching from the median eyes to the top of the rear slope; the sides darker yellow-brown; scanty downlying grey hair over the whole, thicker round the marginal streak. The eyes are yellow.

The mandibles are rather dark brown; fangs red; the lip, maxillæ, sternum, and coxæ yellow; the legs yellow, with brown rings.

The abdomen above is yellow-brown, mottled all over with small round yellow spots; scattered grey hairs smooth and downlying, thicker on the sides. On the under side it is paler yellow-brown, uniformly covered with fine, smooth grey hair. The epigyne is yellow.

The cephalothorax is narrow in front, about one-third of its greatest width. The mandibles are longer than the clypeus is wide; fangs short and stout; two equal-sized teeth and one very minute on inner falx-sheath.

The eyes of the front row are procurved, the laterals two-thirds the diameter of the median and that distance apart. The eyes of the second row have a diameter three times that of the front median, and stand out rather prominently on black rims; they are as far apart as the diameter inside the black rims. The rear eyes are two-thirds in diameter those of the second row, two of their diameters apart and the same distance from the second row.

The lip is much broader than long, about one-third the height of the maxillæ.

The sternum is a broad oval, smooth and slightly convex.

The abdomen is oval; the upper surface smooth, with only a few scattered fine hairs, but they cover entirely the under side.

The epigyne consists of an oval transverse base, from which springs the median rib. This dividing at the apex encircles hollows—one on each side—and returns to the middle in a small shiny protuberance. Upright oval bosses stand one at each side of the base.

The measurements in millimetres are as follows:—

		Long.	Wide.			
Cephalothorax ...		3	} $\frac{3}{4}$ in front. $2\frac{1}{4}$			
Abdomen .....		$3\frac{1}{4}$		$2\frac{1}{2}$		
Mandibles .....		$1\frac{1}{4}$				
		Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.	
Legs .....	1.	$\frac{3}{4}$	$2\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{3}{4}$	= $8\frac{1}{4}$
	2.	$\frac{3}{4}$	—	—	—	= —
	3.	$\frac{3}{4}$	$2\frac{1}{4}$	$2\frac{1}{2}$	$3\frac{3}{4}$	= $9\frac{1}{4}$
	4.	1	$2\frac{3}{4}$	$2\frac{3}{4}$	$4\frac{1}{4}$	= $10\frac{3}{4}$
Palpi .....		$\frac{1}{2}$	$1\frac{1}{4}$	1	$\frac{3}{4}$	= $3\frac{1}{2}$

A single female from Dran, Langbian Mountains, S. Annam, 3000 ft., is very similar in appearance to the Australian *Lycosa albosparsa* L. Koch, but has the front row of eyes shorter than the second instead of longer as well as the slight generic differences.

#### Family PISAURIDÆ.

#### Genus HYGROFODA Thor.

#### HYGROPODA LONGITARSIS Thor.

Three females from Deban, Pharang Province, South Annam, 650 ft.

The measurements in millimetres are as follows:—

	Long.	Broad.					
Cephalothorax ...	$3\frac{1}{2}$	$\left\{ \begin{array}{l} 1\frac{3}{8} \\ 3\frac{1}{4} \end{array} \right.$					
Abdomen .....	5			$2\frac{1}{2}$			
Mandibles .....	1						
		Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.		
Legs .....	1.	1	6	7	$9\frac{1}{2}$	=	$23\frac{1}{2}$
	2.	1	6	6	$7\frac{1}{4}$	=	$20\frac{1}{4}$
	3.	$\frac{3}{4}$	3	3	$3\frac{3}{4}$	=	$10\frac{1}{2}$
	4.	$1\frac{1}{4}$	5	5	7	=	$18\frac{1}{4}$
Palpi .....		$\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{4}$	$1\frac{1}{4}$	=	$4\frac{1}{2}$

With the exception of being smaller, this agrees closely with Thorell's description of his *H. (Dendrolycosa) longitarsis* from Kandari, Celebes Is.

#### Family SALTICIDÆ.

#### Genus MENEMERUS Sim.

#### MENEMERUS FELIX, sp. n.

The ground-colour of the cephalothorax is black-brown round the edges of the cephalic part, dark yellow-brown in the middle and on the thoracic part, with white and orange hairs in front between the eyes, and white hair-patches on the median streak. At the sides are broad black streaks, with a white hair-fillet round the sides; a white hair-fillet surrounds the whole upper side of the abdomen, with a longitudinal median streak of white hair intermixed with orange in the posterior half; between this and the side fillet is a black area on each side. A white hair-spot lies on this on each side near the posterior end. The under side of the abdomen is greyish yellow in front of the genital groove, from which a darker longitudinal stripe runs to the spinnerets, each side of which are white and orange hair markings covered with rather large irregular brown patches. The mandibles are black-brown, with scattered white hairs on the inner side. Fangs reddish.

The lip, maxillæ, and sternum are bright yellow, with short brown hair on the former and long upstanding white hair on the latter.

The palpi are bright yellow, with short brown and long white hair.

The coxæ of the legs are bright yellow, but the femoral, patellar, tibial, and metatarsal joints are brown, with white and orange hairing and long brown bristles; the tarsal joints yellow, with grey claw-tufts.

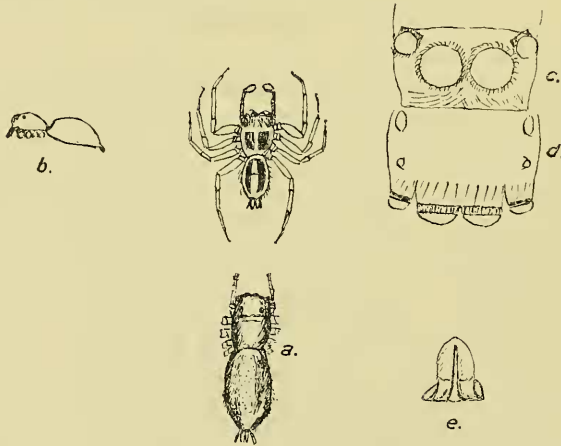
There are three pairs of short spines under tibia i. and ii., two pairs under metatarsi i. and ii.; on metatarsus iv. are spines near the base as well as the bunch at the distal end.

The measurements in millimetres are as follows:—

		Long.	Broad.			
Cephalothorax ...		$3\frac{1}{2}$	} $2\frac{1}{2}$ in front. } 3			
Abdomen .....		$3\frac{3}{4}$		$2\frac{1}{2}$		
		Coxa.	Tr. & fem.	Pat. & fib.	Metat. & tars.	
Legs .....	1.	$1\frac{1}{8}$	$2\frac{3}{4}$	$3\frac{3}{4}$	$2\frac{1}{4}$	= $9\frac{7}{8}$
	2.	1	$2\frac{1}{2}$	$3\frac{1}{4}$	2	= $8\frac{3}{4}$
	3.	$1\frac{1}{8}$	$2\frac{1}{2}$	$2\frac{1}{4}$	$2\frac{1}{2}$	= $8\frac{3}{8}$
	4.	$1\frac{1}{4}$	$2\frac{3}{4}$	3	3	= 10

There are a male and two females from Dran, Langbian Mountains, Province of S. Annam, taken at an altitude of 3000 ft. None of them quite adult.

Text-figure 9.



*Menemerus felix*, sp. n., ♂.

*a*, *Menemerus crassus*, sp. n., ♀; *b*, *Menemerus felix*, profile; *c*, eyes from in front, ♂; *d*, eyes from above, ♀; *e*, epigyne of *M. crassus*.

These specimens certainly appertain to the above genus, and are very close to *M. Lucas's M. (Attus) melanognathus*, a very widely-spread species which I have not seen; but judging from the list of allied species given by Dr. Thorell ('Ragni Indo-Malesi,' p. 307), it would seem to differ only in the pattern of the abdomen, generally lighter colouring, and longer legs.

*MENEMERUS CRASSUS*, sp. n.

*Female.* Cephalothorax black-brown; a rather large yellow-brown spot surrounds the fovea just behind the line of the rear eyes, and is continued as a narrow streak to the rear slope. Down-lying lanceolate red and white hairs cover the upper part of the cephalothorax; a white fillet round the margin and only red hairs round the front eyes and on the clypeus; above the front row of eyes is a row of long brown bristles, and a thick bush of long yellow-grey bristles protrudes from the lower part of the clypeus and base of the mandibles, the latter being dark red-brown. The lip and maxillæ are yellow-brown with yellowish grey fringes. The sternum is brighter, with long upstanding bristles round the margin. It is twice as long as broad, and does not extend between the rear coxæ.

The legs are bright yellow-brown on the under side, nearly black-brown on the upper, with the exception of the tarsi which are yellow-brown. The claw-tufts are grey. Both they and the palpi are closely covered with short red and white lanceolate hairs, and on the tibial and distal joints of the latter are long outstanding yellow-grey bristles.

The abdomen above is pale yellow-brown, with similar hair to that on the cephalothorax but white only round the base, where there is also a band of long white bristles.

The under side is similarly coloured, but the hair-covering is yellowish grey intermixed with brown bristles on roots. The epigyne is brown, and the spinnerets on the upper side are covered with red and white hair.

The measurements in millimetres are as follows:—

		Long.	Broad.			
Cephalothorax ...		5	} 2 in front. 3 $\frac{3}{4}$			
Abdomen .....		7		4 $\frac{1}{4}$		
Mandible .....		1 $\frac{1}{2}$				
		Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.	
Legs .....	1.	1 $\frac{1}{2}$	3 $\frac{1}{2}$	4	2 $\frac{1}{2}$	= 11 $\frac{1}{2}$
	2.	1 $\frac{1}{4}$	3 $\frac{1}{2}$	3 $\frac{1}{4}$	2	= 10
	3.	1 $\frac{2}{3}$	3	3 $\frac{1}{4}$	3	= 10 $\frac{5}{8}$
	4.	1 $\frac{3}{8}$	3 $\frac{3}{4}$	4	4	= 13 $\frac{1}{8}$
Palpi .....	..	$\frac{1}{2}$	1 $\frac{1}{4}$	1	$\frac{3}{4}$	= 3 $\frac{1}{2}$

There is one female from the same locality as *M. felix*, but it is a good deal larger, the abdomen is more elliptical, and the long bunches of bristles on the palpi and fore part of the cephalothorax form a special feature.

*MENEMERUS DABANIS*, sp. n.

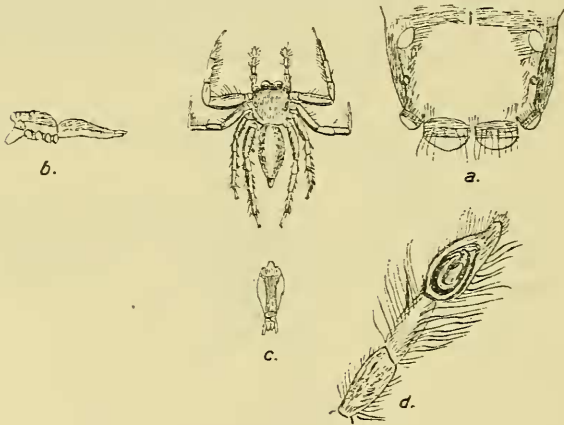
*Male.* Cephalothorax black-brown in front and at the sides of the cephalic part, red-brown in the middle and on the thoracic.

A fillet of white hair round the margin: a white hair-patch lies round the thoracic fovea. Long white bristles behind the front eyes and on the clypeus. Red hair round the front eyes.

The mandibles are black-brown, with long white bristles at the base; fangs paler red. The maxillæ are dark yellow-brown, the lip darker brown with dark grey hair. The sternum is dark yellow-brown with white hair.

The abdomen is dark yellow-brown above, with a broad median streak, narrowing posteriorly, of white hair on pale yellow-brown and long upstanding white bristles. On the under side it is white at the sides, with a yellow-brown median area reaching from the base to the spinnerets. The latter are dark brown, with a white hair-streak on the upper side of the superior pair.

Text-figure 10.

*Menemerus dabanis*, sp. n.

a, eyes; b, profile; c, under side of abdomen; d, left palp.

The palps are dark brown on the femur, paler yellow-brown on the other joints, with long upstanding white bristles.

The first and second pairs of legs are dark brown from femur to metatarsus, with long white bristly hair mixed with black forming a fringe on the under side of the femur, tibia, and metatarsus. The tarsal joint is paler yellow-brown with a dark grey claw-tuft.

The third and fourth pairs of legs are pale yellow-brown on the femoral joints, darker on the tibial and metatarsal, with long white bristles and downlying white hair.

The cephalothorax is flat on the cephalic part, highest at the rear, and sloping anteriorly. The thoracic part slopes at first slightly and then steeply to the rear, with a short fovea behind



the rear rows of eyes. The front median eyes are twice the diameter of the front side, which are well separated from the former, situated farther back and higher up, making the whole row recurved. All these eyes have wide black rims. The eyes of the third row are of the same diameter as the front laterals, and the row is only very slightly broader than the front. The small eyes of the second row are about equally distant between the front laterals and the rear eyes.

The clypeus is half the width of the front median eyes, and wholly covered with long bristly hair pointing inwards from each side.

The mandibles have long bristles at the base, with long but fine hair over the remainder. The single tooth on the inner side is conical and about half-way down the margin of the falx-sheath. On the outer margin are two smaller teeth at the lower end.

The sternum is pear-shaped, narrowed anteriorly, the front lying between the coxæ of the first pair of legs, which are the width of the base of the lip apart.

The abdomen is twice as long as broad, widest near the base and narrowing to the posterior end. The downlying hair at the sides of this as well as on the legs and the cephalothorax is lanceolate.

The front pair of legs is longer and stouter than the others, the femur being club-shaped. The second pair similarly shaped but smaller. On the patella and femur of each of these pairs is a long thick fringe of bristles—under tibia i. and ii. are three pairs of spines; under the metatarsus of i. and ii. are two pairs of stout spines and one smaller spine; under metatarsus iii. and iv. are two pairs of spines, one pair at the sides and a bunch at the distal end.

The measurements in millimetres are as follows:—

		Long.	Broad.		
Cephalothorax ...		$3\frac{3}{4}$	} $2\frac{5}{8}$ in front.		
			} $3\frac{1}{2}$		
Abdomen .....		5	$2\frac{1}{2}$		
Mandibles .....		$1\frac{3}{8}$			
		Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.
Legs .....	1.	$1\frac{1}{4}$	4	$4\frac{1}{2}$	3 = $12\frac{3}{4}$
	2.	$1\frac{1}{8}$	3	3	$2\frac{1}{2}$ = $9\frac{5}{8}$
	3.	$1\frac{1}{8}$	$2\frac{1}{2}$	$2\frac{3}{4}$	$2\frac{3}{4}$ = $9\frac{1}{8}$
	4.	$1\frac{1}{4}$	$3\frac{1}{4}$	$3\frac{1}{4}$	3 = $10\frac{3}{4}$
Palpi .....		$\frac{3}{4}$	$1\frac{1}{2}$	$1\frac{1}{2}$	1 = $4\frac{3}{4}$

One male from Daban, Pharang Province, S. Annam, from an altitude of about 650 ft.



## TACHYSKARTHOS, gen. nov.

Differs from *Tarne* E. Simon, of the group *Hasarieæ*, in having flat lanceolate bristles and simple hairs in place of shining squamules, in having the rear pair of eyes distinctly large instead of rather small, in having the bunches of spines on the four rear metatarsi larger and more numerous and the third pair of legs shorter and not thicker than the fourth pair.

## TACHYSKARTHOS ANNAMENSIS, sp. n.

*Male.* The cephalothorax is black-brown, sparsely covered with white and orange lanceolate hair, and brown bristles behind the front row of eyes; the mandibles, lip, and maxillæ yellow-brown; sternum and coxæ brighter yellow-brown, with pale brown upstanding hair. The legs darker yellow-brown on the femoral, patellar, and tibial joints, paler on the metatarsal and tarsal, sparsely furnished with fine upstanding brown bristly hair and grey claw-tufts. The palpi yellow-brown on the femoral and under side of the patella and tibial, but on the upper side of these a thick mat of white lanceolate hairs; the distal joint yellow-brown.

The abdomen above is mottled with small yellow and brown spots, with a patch of brown bristly hair at the base; behind this a horseshoe-shaped fillet of white lanceolate hair reaching halfway down each side of the abdomen. On the lower half of the back is another smaller similar fillet of white hair. The underside is smooth yellow-grey with minute brown simple hairs; spinnerets brown.

The cephalic part of the cephalothorax slopes downward from the rear row of eyes to the front and from about the same point to the rear, the thoracic part being in length as eight to five of the cephalic. The surface is smooth and shiny. The eye quadrangle is one-third wider than long. The eyes of the rear row are very convex and as large as the front laterals, slightly narrower than the front row. The small second row eyes are situated midway between the rear and front laterals. The eyes of the front row are slightly recurved, the laterals half the diameter of the median, and the clypeus half the width of the latter. A short thoracic fovea lies just behind the rear row of eyes.

The mandibles are conical, straight, and perpendicular, with rather long fangs.

On the inner margin of the falx-sheath is a bifurcated tooth, with two single ones on the outer margin.

The lip is longer than broad, rounded anteriorly, and more than half the length of the maxillæ, which are upright, straight at the anterior end, rounded on the outside of their upper end, and tapering to the base.

The sternum is ovate, widest in the middle, longer than broad, tapering to rear and front, where it is truncate the width of the base of the lip.

The coxæ on each side are contiguous, as are also the rear pair.

The tibial joint of the palpi is longer than the patella. There is no apophysis at the base of the distal joint, which holds a simple oval convex bulb with only a short flagellum.

The legs are moderately long, the femoral joint of the first pair thicker and more club-shaped than the others.

There are three pairs of spines under tibia i., one long pair at the base of metatarsus i., and a single spine on the inner side near the distal end.

The two tarsal claws have a few teeth at the basal end, covered by claw-tufts of thick flat bristles. On metatarsi iii. and iv. are one single and two pairs of long spines with a bunch at the distal end. A pair of spines on the patella of the same, none on the femur.

The abdomen is ovate, rounded in front, rather pointed at the rear. The texture is soft, with flat lanceolate bristles on the upper side and fine short simple hairs on the under side and a bunch of bristles at the base.

The measurements in millimetres are as follows :—

	Long.	Broad.			
Cephalothorax ...	$3\frac{1}{4}$	$\left\{ \begin{array}{l} 2 \text{ in front.} \\ 2\frac{1}{2} \end{array} \right.$		.	
Abdomen .....	3	2			
Mandibles .....	$\frac{3}{4}$				
	Coxa.	Tr. & fem.	Pat. & tib.	Metat. & tars.	
Legs .....	1.	$\frac{3}{4}$	$2\frac{1}{4}$	$2\frac{1}{2}$	$1\frac{1}{2}$ = 7
	2.	$\frac{1}{2}$	—	—	— = —
	3.	$\frac{3}{4}$	$2\frac{1}{2}$	$1\frac{1}{2}$	2 = $6\frac{3}{4}$
	4.	$\frac{3}{4}$	$2\frac{1}{2}$	$2\frac{1}{4}$	2 = $7\frac{1}{2}$
Palpi .....		$\frac{3}{8}$	1	$1\frac{1}{8}$	$\frac{3}{4}$ = $3\frac{1}{4}$

A single male from Dran, Langbian Mountains, S. Annam, 3000 ft., would appear to come nearest to M. Simon's African genus of *Tarne*, but it is clearly necessary to place it in a new genus, on account of the difference given above.

I would like to record an observation made by an esteemed correspondent, Mr. H. C. Abraham, an officer of the Government Survey Department at Taiping, F.M.S.

Mr. Abraham, who is an enthusiastic arachnologist, was watching a female of the Giant Orb Weaver, *Nephila maculata*, on her web, running about on which were three of the minute

males. While he was watching, one of the males ran up to her, clasped her, and served her, followed at short intervals by each of the others.

The female and her three suitors are now in Mr. Abraham's collection.

It might well be that, owing to the great difference in size between the sexes in this genus, such a procedure is necessary in order to fully fertilize her eggs, but I do not think it has been previously noted that to do so the services of more than one of the other sex has been required.